



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3391-023
Job Sheet 176079



Part No: D3391-023

Job Qty: 1 ea

Part Name: Mid Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/16/18

Job Tracking No:

Due Date: 5/24/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV J SHEET 7 IPP A 05.10.20 New Issue KJ/EC IPP B IPP C 07.03.20 rev F dwg EC IPP D 07.03.28 re-format EC IPP E 07.10.31 ecn 1053P EC IPP Rev:F ECN 1056 07-11-13 DD verified by: EC IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC IPP Rev: I 08-11-13 Removed steps per w/o, QC KJ verified by: ec IPP Rev:J add in seq 140 expire date &b# sikaflex DD 10.02.17 verified by:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	5/23/18	5/23/18	0.00	0.00	Start Up Skidtubes-1		J.Y
100	Skidtubes	1 pcs	5/23/18	5/23/18	0.88	2.11	Skidtubes-4		J.Y DAS 38
110	QC	1 pcs	5/23/18	5/23/18	0.00	0.00	QC5		BEB 18-05-18
120	HandFinish	1 pcs	5/23/18	5/23/18	0.00	0.38	HandFinish1		J.Y
130	QC	1 pcs	5/23/18	5/23/18	0.00	0.00	QC7-2		J.Y
140	Skidtubes	1 pcs	5/23/18	5/23/18	0.00	2.11	Skidtubes-4		J.Y
150	QC	1 pcs	5/23/18	5/23/18	0.00	0.00	QC5		J.Y DAS 38
160	Skidtubes	1 pcs	5/23/18	5/23/18	0.00	2.11	Skidtubes-4		J.Y DAS 38
170	QC	1 pcs	5/23/18	5/23/18	0.00	0.00	QC10		J.Y DAS 38
180	QC	1 pcs	5/23/18	5/23/18	0.00	0.00	QC5		J.Y DAS 38
185	HandFinish	1 pcs	5/23/18	5/23/18	0.00	0.38	HandFinish2		J.Y 18-05-18
191	SprayPaint	1 pcs	5/23/18	5/23/18	0.00	0.91	Spray Paint		J.Y
192	Outsource	1 pcs	5/23/18	5/23/18			ATE003-VC	39936	CX1810511
193	Packaging	1 pcs	5/23/18	5/23/18	0.00	0.00	Packaging2		J.Y 18-05-18
200	QC	1 pcs	5/23/18	5/23/18	0.00	0.00	QC14		J.Y 18-05-18
230	HandFinish	1 pcs	5/24/18	5/24/18	0.00	0.38	HandFinish4		J.Y 18-05-18
240	QC	1 pcs	5/24/18	5/24/18	0.00	0.00	QC5		J.Y 18-05-18
250	Packaging	1 pcs	5/24/18	5/24/18	0.00	0.00	Packaging3-1		J.Y 18-05-18
260	QC21-SA	1 Ea	5/24/18	5/24/18	0.00	0.00	QC21		J.Y 18-05-18

Part Op 100 - 1-Cut tube to finish length as per Dwg D3391 2-Drill pilot holes using DT8796 (Do not drill "B" holes) and drill only 1
Descriptions: fwd saddle hole on one side only as per Dwg D3391 3-Open aft saddles and GHW holes to Ø0.4375" except for fwd saddle
holes 4-Remove .030" from Fwd indexing Ridge as per Dwg D3391 5-Remove indexing ridge on Fwd & Aft end of
skidtube as per Dwg D3391 6-Deburr, scribe batch # on aft end. 7- Locate D3391-021 in D3391-023 at 9.00" (see view
8- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149
locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously transfer
drilled pilot holes in D3391-023/021 using drill press ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to
0.500" as per ON 2ND SIDE ONLY ream out 2nd and forth saddle hole to 0.499". D3391-021
BATCH: 9- Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.375" holes with paint marker,
DO NOT DRILL HOLES #3-19-20 FROM FWD END OF JIG Locating from two fwd wearplate holes in D3391-023
drill remaining 6 wearplate holes in D3391-021 using DT8937 10- Open wearplate holes of D3391-023 assembly detail
section Q-Q to Ø0.375" (10 holes) as per Dwg D3391 Open wearplate holes of D3391-023 assembly detail section H-H to
Ø0.297" (20 holes) as per Dwg D3391 Deburr and blow out all chips from inside tube, scribe

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																													
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Root Cause <table style="width:100%; border: none;"> <tr><td style="border: none;">Environment ☐</td><td style="border: none;">No Re-verification ☐</td><td style="border: none;">Pressure/Fc ☐</td></tr> <tr><td style="border: none;">Design ☐</td><td style="border: none;">Operator ☐</td><td style="border: none;">Bending ☐</td></tr> <tr><td style="border: none;">Doc/Data ☐</td><td style="border: none;">Offset/Setup ☐</td><td style="border: none;">Centre Not ☐</td></tr> <tr><td style="border: none;">Equip/Tooling ☐</td><td style="border: none;">Supplier ☐</td><td style="border: none;">Cracks ☐</td></tr> <tr><td style="border: none;">Handling/Pre ☐</td><td style="border: none;">Training ☐</td><td style="border: none;">Crimp/Kink/ ☐</td></tr> <tr><td style="border: none;">Material ☐</td><td style="border: none;">Use for Testing ☐</td><td style="border: none;">Cuffs ☐</td></tr> <tr><td style="border: none;">Internal Transport ☐</td><td style="border: none;">Poor Information ☐</td><td style="border: none;">Crushing ☐</td></tr> <tr><td style="border: none;">Tribal Knowledge ☐</td><td style="border: none;">Rushing ☐</td><td style="border: none;">Heat Treat ☐</td></tr> <tr><td style="border: none;">LOA ☐</td><td style="border: none;">Product Improvement ☐</td><td style="border: none;">Wave/Twist in ☐</td></tr> <tr><td style="border: none;">Substation ☐</td><td style="border: none;">Process Improvement ☐</td><td style="border: none;">Marks/Chatter ☐</td></tr> <tr><td style="border: none;">Past Expiry Date ☐</td><td style="border: none;">Manufacturing Process ☐</td><td></td></tr> <tr><td style="border: none;">Misidentified ☐</td><td style="border: none;">Past Due ☐</td><td></td></tr> </table>		Environment ☐	No Re-verification ☐	Pressure/Fc ☐	Design ☐	Operator ☐	Bending ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/ ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	LOA ☐	Product Improvement ☐	Wave/Twist in ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Past Expiry Date ☐	Manufacturing Process ☐		Misidentified ☐	Past Due ☐		 Container No: S062088 Part: D3391 - 023 Job No: 176079 Serial No/Batch: S062088 Revision: J Inspector: Date: 04/17/18 <table style="width:100%; border: none;"> <tr> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td></td> <td></td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>			Instructions Incomplete/Unclear ☐	Fit/Function ☐	Finish ☐	Drill Holes ☐	Misaligned/off center ☐	Misread ☐			Turning Sequence ☐
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140 - 1-Open float bag holes as per dwg 2-C'sink float bag holes as per dwg 3- Prepare tube for welding 4-Bond web in place as per Dwg D3391 & QSI 015. Adhere for 12 hours) A/R Sikaflex exp: Dec 2018 batch#: M1387A7
 NOTE:ENSURE WEB IS INSERTED IN AFT END OF TUBE
 160 - 1-Weld crossbolt spacer as per dwg D3391 & QSI 004 2-grind weld flush A/R 038611
 185 - Re-alodine
 191 - PRIME AS PER DWG AND QSI005 4.2.1.3.3 PRIMER BATCH: _____ PAINT AS PER DWG AND QSI005 4.2.2.4 PAINT: _____
 230 - 1-Install Inserts as per Dwg

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-100	Skidtube Extrusion	1 Ea (1 ea)	90-Start up Operation	163253
D3389-1	Web	1 Ea (1 ea)	140-Skidtubes	5054800
D3681-1	Spacer	5 Ea (5 ea)	160-Skidtubes	5022530
ALS4-1032-130	Rivnut	20 Ea (20 ea)	230-HandFinish	5808959
D3591-1	Bushing	2 Ea (2 ea)	230-HandFinish	5026944

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-100	1	59	0
140-Skidtubes	D3389-1	1	2	0
160-Skidtubes	D3681-1	5	248	0
230-HandFinish	ALS4-1032-130	20	14,777	0
	D3591-1	2	55	0

Part Specifications

Specifications could not be found.

Plex 4/16/18 2:46 PM Dart.lajeunesse.marie

3
003302

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Root Cause		FAULT CATEGORY																							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																				
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Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																				
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WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____	Rework	☐	Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐
NCR No. _____	Scrap	☐	Machining	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐
	Use-as-is	☐	Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
	Suspected Unapproved	☐	Large Fab	☐	Composite	☐	Supplier	☐		☐

Date :	Step #:	QTY Effective :	MRB (QS1042) Approval
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Description Work Order Deviation	Disposition	
		Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause			FAULT CATEGORY					
Environment		No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong		
Design		Operator	Bending	Set-up	Folio/Program	Outside Dimensions		
Doc/Data		Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance		
Equip/Tooling		Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect		
Handling/Pre		Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing		
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Misidentified		Past Due	OTHER :					



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039936**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO039936
PO Date: 5/17/18
Due Date: 5/18/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Via: Ground
Pymt Terms: Net 30

Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176078	D3391-023	Mid Tube Assembly	Firmed	5/18/18	1 pcs	1 x 0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176077			Firmed	5/18/18	1 pcs	1 x 0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176071			Firmed	5/18/18	1 pcs	1 x 0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176072			Firmed	5/18/18	1 pcs	1 x 0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176079			Firmed	5/18/18	1 pcs	1 x 0 pcs	1 pcs	\$125.00/pcs	\$125.00
Sub Total:						5	0	5		\$625.00

Grand Total: \$625.00

Order Notes

rev'd At 18/05/18

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

CL

Plex 5/17/18 1:01 PM dart.lavoie.chantal